Unit Review

1. Jamal and Alisha played a round of miniature golf. They made some notes of the time it took to play. Their data are shown in the graph.

![Graph showing Time vs Hole Number]

a. Use the linear model to estimate answers for the questions below. Explain how each estimate can be found from the graph.

i. About how much time has passed if they are golfing the tenth hole?

ii. 36 minutes have passed since starting the game, about what hole are they on?
Unit Review (continued)

b. Would a correlation coefficient for the variables of the Miniature golf game be closest to \(-1, -0.8, -0.5, 0, 0.5, 0.8\) or \(1\)? Explain your choice.

c. Use the points \((0, 0)\) and \((18, 40)\) to find an equation in the form \(y = mx + b\) for the modeling line. Show your work.

d. Explain what the slope and the \(y\)-intercept tell you about the relationship between the hole number and the time since the start.

2. Find an equation to relate each set of conditions.
   A line with slope \(\frac{5}{2}\) that passes through the point \((-3, 0)\)

a. Cost, \(C\), of your order when you must pay $5 in shipping and $2.50 per item ordered.
Unit Review (continued)

b. A line that passes through the points (1, 7) and (6, 17)

c. Speed (s) and time (t) with a distance of 7 miles

3. A group of Metropolis Middle School students volunteered to build a new city playground. A local pizzeria donated 20 large pizzas for their lunch. The volunteers shared the pizza equally.

a. Complete the following table to show how the amount of pizza for each volunteer depends on the number of volunteers.

<table>
<thead>
<tr>
<th>Number of Volunteers</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>8</th>
<th>10</th>
<th>15</th>
<th>30</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Pizza per Volunteer</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Is the relationship between the amount of pizza per volunteer and the number of volunteers linear, inverse, or some other pattern? Give an explanation justifying your answer.
c. Write an equation relating the amount of pizza per volunteer, $P$, to the number of volunteers, $n$.

d. Find the amount of pizza per volunteer if there are 14 volunteers.

4. Name the relationship for each graph below. Describe the characteristics of the graph that makes it that type of function.

**Graph A**

**Graph B**
5. The following is a table of data that represents the gender of the teachers and support staff at Maywood

<table>
<thead>
<tr>
<th>Men and Women workers Maywood</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>Support staff</td>
<td>9</td>
<td>24</td>
</tr>
</tbody>
</table>

a. Do you think teachers are less likely than support staff to be women? Justify your answer.

b. Do you think support staff are more likely than teachers to be men? Justify your answer.

c. Write a true statement about the staff at Maywood that is based on the data in the table.

d. Write a false, but convincing, statement about the data in the table. Justify your reasoning.